

# Eating Raw, Undercooked, or Cold Meats and Seafood

This sheet is about the eating of raw, undercooked, or cold meats and seafood in a pregnancy and while breastfeeding. This information should not take the place of medical care and advice from your healthcare provider.

## **What are raw, undercooked, or cold meats and seafood?**

Raw meat or seafood is any meat or seafood product that has not been cooked at all. Undercooked meat or seafood has been cooked in part but has not been heated to the safe minimum internal temperature. Deli meats (also known as cold cuts) and cold seafood are precooked meats or seafood that have been frozen or chilled for later use.

Raw, undercooked, or deli meats and seafood can contain bacteria and/or parasites that can cause foodborne illnesses. For this reason, it is recommended to cook meat and seafood up to at least the minimum internal temperature, and to reheat pre-cooked cold meats or seafood. See below:

<b>Meat/Seafood</b>	<b>Safe Minimum Internal Temperature</b>
Fish and Shellfish	145 °F (63°C)
Pork	145 °F (63°C)
Reheat Cooked Ham	140 °F (60°C)
Beef (steaks, chops, and roasts)	145 °F (63°C)
Beef and Pork (ground)	160 °F (71°C)
Wild game	165 °F (74°C)
Poultry	165 °F (74°C)
Cold lunchmeat, hot dogs and deli meat or fermented/dry sausages	165 °F (74°C) (Cook until steaming hot)

More information on specific bacteria and parasites that can be found in foods is available in these MotherToBaby fact sheets:

- *E. coli* (<https://mothertobaby.org/fact-sheets/e-coli-pregnancy/>),
- *Listeria* (<https://mothertobaby.org/fact-sheets/listeriosis-pregnancy/>),
- *Salmonella* (<https://mothertobaby.org/fact-sheets/salmonella-pregnancy/>),
- Toxoplasmosis (<https://mothertobaby.org/fact-sheets/toxoplasmosis-pregnancy/>),
- *Vibrio* (<https://mothertobaby.org/fact-sheets/vibrio-pregnancy/>).

Methylmercury amount is another concern with seafood. Please see our fact sheet at <https://mothertobaby.org/fact-sheets/methylmercury-pregnancy/> for more information.

## ***I heard on the news that a product I may have eaten has been recalled. Is there a place I can check?***

The U.S. Food and Drug Administration (FDA) has a website where you can check for food recalls here <https://www.foodsafety.gov/>. If you heard about it on the news, write down all of the information from the news article and call the phone numbers or check the websites that they have provided.

There can be a chance of infection from food cooked at home and not handled safely. You can learn about safe handling of meats and poultry on the U.S. Department of Agriculture (USDA) site. Click on the consumer section on their website: <https://www.fsis.usda.gov/wps/portal/fsis/home>.

***How do I know if I have eaten raw, undercooked, or cold meat and seafood that is infected with bacteria or a parasite?***

People can get sick from unsafe food handling practices from eating at a restaurant, on a cruise, on a trip, a home-cooked meal, or other food-related occasions. These situations are unlikely to get reported. Some people who become infected with bacteria or parasites show no symptoms. Others may have fever, diarrhea, stomach cramps, stomach ache, headache, muscle pain, swelling of lymph nodes, joint pain, and/ or vomiting, depending on the infection. The symptoms can start hours to weeks after eating contaminated food.

If you are concerned that you have been infected with bacteria and/or parasites from meat or seafood, ask your healthcare provider if there are tests to diagnosis the infection. In some cases, there may be medications that can treat the infection and reduce the chance of harm for your baby.

***Does eating raw, undercooked, and/or cold meat and seafood increase the chance for miscarriage?***

Miscarriage is common and can occur in any pregnancy for many different reasons. If the meat/seafood is infected with certain bacteria or parasites and a person who is pregnant becomes ill from eating it, there may be an increased chance of pregnancy loss. High fever can also increase risks to the baby. For more information on fever during pregnancy, please see our factsheet at <https://mothertobaby.org/fact-sheets/hyperthermia-pregnancy/>.

***Does eating raw, undercooked, or cold meat and seafood increase the chance for birth defects?***

Every pregnancy starts out with a 3-5% chance of having a birth defect. This is called the background risk. When exposure to raw, undercooked, or cold meat and seafood happens, the chance for birth defects depends on whether the person who is pregnant becomes infected and by which parasite or bacteria.

For example, infants born to a person who had toxoplasmosis infection during the first trimester of pregnancy have about a 10-15% chance of being born with the infection themselves (called congenital toxoplasmosis). While the chance of passing the infection to the baby (transmission) increases later in pregnancy, the most observed effects are seen with first trimester infection. Some infants with congenital toxoplasmosis will have problems with the brain, eyes, heart, kidneys, blood, liver, or spleen. Other foodborne infections such as *E.coli*, *Listeria*, and *Salmonella* have not been associated with a higher chance of birth defects.

***Can eating raw, undercooked, or cold meat and seafood increase the chance for other pregnancy-related complications?***

If the food is contaminated with bacteria or parasites and a person who is pregnant becomes infected, there can be other risks to a pregnancy. These can include preterm delivery (having the baby before 37 weeks of pregnancy) or pregnancy loss.

**Parasite/Bacteria**

*Toxoplasma*

*E. coli*

*Salmonella*

*Listeria*

**Increased Chance of**

Pregnancy loss

Preterm delivery and pregnancy loss

Pregnancy loss and infection of amniotic fluid

Preterm delivery and pregnancy loss

***Does eating raw, undercooked, or cold meat and seafood affect future behavior or learning for the child?***

Toxoplasmosis infections can cause long-term problems for the baby, such as vision loss, hearing loss, or developmental delays. Many infected infants will have no problems at birth, but symptoms of congenital toxoplasmosis can happen months or even years after birth. For this reason, infants with congenital toxoplasmosis should be treated for the infection during the first year of life and then should be checked for problems over time.

Listeriosis infections are uncommon in newborns but can also increase the chance for long-term health complications in children. Newborns with *Listeria* infection can have symptoms of sepsis (blood infection) or meningitis after birth. Meningitis is a condition where there is swelling around the brain and spinal cord. If not treated quickly with antibiotics, the effects of meningitis can lead to long-term problems for some children.

***Breastfeeding while eating raw, undercooked, or cold meat and seafood:***

Breastmilk can help protect your baby from infections. There have been case reports suggesting *Salmonella* might be passed from a person who is breastfeeding to a nursing child. However, most people with these types of infections do not need to stop breastfeeding. Diarrhea and other symptoms of *E. coli* infection may lower milk supply. In the case of *E. coli* and *Salmonella* infections, be sure to practice good hand washing. If you suspect that the baby has symptoms, such as diarrhea, contact your pediatrician. Be sure to talk to your healthcare providers about all of your breastfeeding questions.

***If a male eats raw, undercooked, or cold meat and seafood, could it affect fertility (ability to get partner pregnant) or increase the chance of birth defects?***

Although *Salmonella* and *E. coli* are most often contacted through contaminated foods or animals, they can be passed from person to person. Wash hands often to help reduce the chance of passing the disease among people living in the house. For more information on paternal exposures, please see the MotherToBaby fact sheet at <https://mothertobaby.org/fact-sheets/paternal-exposures-pregnancy/>.

**Selected References:**

- American Pregnancy Association, Deli Meat, 2021 <http://americanpregnancy.org/is-it-safe/deli-meats/>.
- American Pregnancy Association, Listeria and Pregnancy, 2021 <https://americanpregnancy.org/pregnancy-complications/listeria/>
- Buzby, Jean C., 2001. "Children and Microbial Foodborne Illness," Food Review/ National Food Review, United States Department of Agriculture, Economic Research Service, vol. 24(2), pages 1-6.
- Center for Disease Control and Prevention, Listeria, 2021, <https://www.cdc.gov/listeria/index.html>.
- Center for Disease Control and Prevention, Bacterial Meningitis, 2021, <https://www.cdc.gov/meningitis/bacterial.html>
- Center for Disease Control and Prevention, Salmonella, 2022, <https://www.cdc.gov/salmonella/>.
- Center for Disease Control and Prevention, Toxoplasmosis, 2018, <https://www.cdc.gov/parasites/toxoplasmosis/index.html>.
- Center for Disease Control and Prevention, Vibrio, 2019, <https://www.cdc.gov/vibrio/index.html>
- Craig, A. M., et al. (2019). Listeriosis in Pregnancy: A Review. Obstetrical & Gynecological Survey, 74(6), 362–368.
- Diaz-Herrera J 2017. Listeriosis in pregnancy. Rev Med Hered 28(1):29-32
- Illinois Department of Public Health: Food Safety fact sheet, <http://www.idph.state.il.us/public/hb/hbsafefood.htm>
- Jeffs, E, et al. (2020). The epidemiology of listeriosis in pregnant women and children in New Zealand from 1997 to 2016: an observational study. BMC Public Health, 20.
- Moshfeghim M and Eftekhari MH 2017. Toxoplasmosis in pregnancy, a rare clinical manifestation: a case report. Obstet Gynecol Cancer Res 2(1):e10091
- New York State Department of Health: Advice on Eating Game, 2014, [https://www.health.ny.gov/environmental/outdoors/fish/health\\_advisories/advice\\_on\\_eating\\_game.htm](https://www.health.ny.gov/environmental/outdoors/fish/health_advisories/advice_on_eating_game.htm)
- Novotny L, et al. 2004. Fish: a potential source of bacterial pathogens for human beings. Vet. Med. 49(9):343-358
- Oyeyemi, Oyetunde T., et al. 2020. "Toxoplasmosis in Pregnancy: A Neglected Bane but a Serious Threat in Nigeria." Parasitology 147(2):127–34.
- Quinlan J. 2013. Foodborne Illness Incidence Rates and Food Safety Risks for Populations of Low Socioeconomic Status and Minority Race/Ethnicity: A Review of the Literature. Int J Environ Res Public Health; 10(8): 3634-3652.

- United States Department of Agriculture: Food Safety and Inspection service, Safe Minimum Internal Temperature, 2022, [https://www.fsis.usda.gov/wps/portal/fsis/topics/food-safety-education/get-answers/food-safety-fact-sheets/safe-food-handling/safe-minimum-internal-temperature-chart/ct\\_index](https://www.fsis.usda.gov/wps/portal/fsis/topics/food-safety-education/get-answers/food-safety-fact-sheets/safe-food-handling/safe-minimum-internal-temperature-chart/ct_index).

**Questions? Call 866.626.6847 | Text 855.999.3525 | Email or Chat at [MotherToBaby.org](https://www.MotherToBaby.org).**

---

Disclaimer: MotherToBaby Fact Sheets are meant for general information purposes and should not replace the advice of your health care provider. MotherToBaby is a service of the non-profit Organization of Teratology Information Specialists (OTIS). Copyright by OTIS, October 1, 2020.